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ABSTRACT

As a response to the problem of adult-student retention at two-year and four-year urban colleges, a new structural model, "Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence" (Sandler, 1999), has been identified to better explain the integration, finances, behavior, and career development of non-traditional students. The following three subsystems at the core of the integrated model of student persistence are explored: (1) the academic and social feelings adults experience upon being in a learning institution; (2) the relationship engendered between this system and the commitments of personal goal and the institution; and (3) the capacity for academic performance and persistence. Five endogenous variables are found to be embedded in an environmental and social cognitive framework of student decision-making and social adaptation that lead to persistence: academic integration (18 percent), social integration (27 percent), institutional commitment (39 percent), cumulative grade point average (11 percent), and goal commitment (12 percent). The effects of financial satisfaction and goal commitment on the integration subsystem are new to the persistence literature. Policy implications for higher education institutions providing undergraduate degree programs for adults include helping adult students achieve their goals and assisting non-traditional learners with career decision making and planning. (Contains 37 references.) (KC)

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A Focal Examination of Integration, Commitment, and Academic Performance: Three Subsystems from the Integrated Model of Student Persistence with Sociostructural Background Variable Effects

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Abstract

An examination of three focal subsystems regarding the integrated model of student persistence (Sandler, 1999) is made. Of the 23 variables in the nonrecursive structural model investigated, the explained variance of five endogenous variables, academic integration **(18%)**, social integration **(27%)**, institutional commitment **(39%)**, cumulative GPA **(11%)**, and goal commitment **(12%)** are examined. The effects of financial satisfaction and goal commitment on the integration subsystem are new to the persistence literature.

As a response to the problem of adult student retention at two-year and four-year urban colleges, a new structural model entitled "Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence" has been identified to better explain the integration, finances, behavior, and career development of nontraditional students (Sandler, 1999). Five endogenous variables at the heart of the model are examined in this paper and draw upon three theoretical subsystems of path linkages that elucidate the decision-making challenges first conceptualized by Tinto (1975;1987; 1993) and that adults confront in a student-learner context. The complete structural model investigated includes 23 variables.

As a focal examination for this paper, three particular subsystems at the core of the integrated model of student persistence are explored (Sandler, 1999). The cross-sectional survey research reported in this paper investigates critical constructs. Five endogenous variables are embedded in an environmental and social cognitive framework of student decision-making and social adaptation that lead to persistence. It includes the academic and social feelings adult students' experience in being a part of the enterprise of learning in college, as one subsystem. The relationships engendered between this variable subsystem and the commitments of personal goal and the institution, a second variable subsystem, are examined. With these two subsystems operative, the capacity for academic performance by adult students, a third subsystem, is evaluated within a larger structural matrix of social cognitive learning and persistence that the model encompasses. The triadic reciprocal causation axiom of Bandura (1986; 1997) is dynamically considered within the three subsystems presented. The reviews of the literature and metanalyses of Kasworm (1990) and Braxton et al. (1997) are theoretically interwoven with the specification of the hypothetical model and subsequent findings. In addition, eleven exogenous variables are included and observed.

CONCEPTUAL FRAMEWORK AND RELATED LITERATURE

The integrated model of student retention of Cabrera et al. (1993) was in turn modified in this research investigation to include new constructs germane to nontraditional students. Careful attention was given in the development of a new model to: 1) the five perceptual "domains of reality" of Kasworm (1990) that provided a qualitative and conceptual summary regarding the diverse research conducted prior to 1990 about nontraditional students, 2) the empirical investigation of Kasworm and Pike (1994) that challenged the appropriateness of the inclusion of academic performance in a traditional model of student satisfaction, 3) the meta-analysis of Braxton et al. (1997) that evaluated a compendium of research related to the theory of student departure of Tinto (1975; 1987; 1993), 4) the review of the literature compiled by Baker and Velez (1996) that examined an evolution of critical socioeconomic considerations affecting

students, and 5) new evidence provided by the Department of Education report, "Answers in the Toolbox" (Adelman, 1999) that dovetail with an array of conclusions that Baker and Velez (1996) entertained and with the sociodemographic findings of this research investigation.

Self-Efficacy and the Theory of Planned Behavior -- A Conceptual Bridge for Model Integration

Two complementary attitudinal frameworks act as a conceptual overlay or bridge for model integration. With a new explanation of adult adjustment conceptual variables are theoretically incorporated and related in a structural model by means of the social cognitive theories of self-efficacy and planned behavior (Ajzen, 1991; Bandura & Cervone, 1983, Bandura, 1997). As an enriched social cognitive framework, the availability of resources is considered to be a critical component in the theory of planned behavior and is shown to be of importance to endogenous variables of the model and the principal target behavior in question, persistence. The deployment of the theory of planned behavior is similarly adapted as the theory of reasoned action of Fishbein and Ajzen (1975) was conceptually integrated by Bean and Metzner (1985) in a conceptual examination of nontraditional student attrition.

Career decision-making self-efficacy (CDMSE), a career planning and development construct was included to permit a richer explanation of the planned decisions that adults develop regarding their vocational futures while continuing their studies for an undergraduate degree (Taylor & Betz, 1983; Betz, Klein & Taylor, 1996; Peterson, 1993a). Most importantly, the effects of three nuclear subsystems, one of integration, a second of commitments (Tinto, 1975; 1987; 1993), and a third of academic performance are centrally examined in this paper.

Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence: An Examination of Three Focal Subsystems of Hypothetical Linkages Involving Integration, Commitment, and Performance from a Structural Model

By elaborating the integrated model of student retention of Cabrera et al. (1993) with the constructs of CDMSE, perceived stress, and financial attitudes/difficulty, an attempt is made to better explain the variance observed regarding three central variable subsystems within a structural model as follows: integration, commitment, and performance. The impact of the constituent variables of the resource subsystem that includes perceived stress, and the effects of other endogenous variables on the innermost and fundamental subsystems of integration, commitment, and academic performance within the model are focally examined in this paper.

The integration subsystem is composed of the endogenous variables of academic integration and social integration and the path effects measured within the structural model presented, as derived from Tinto (1975; 1987; 1993) and subsequently conceptualized by Cabrera et al. (1993) and Sandler (1999). The commitment subsystem included the endogenous variables of goal

commitment and institutional commitment and bears antecedent reference to Tinto (1975; 1987; 1993), and to a degree to Bean and Metzner (1985), as conceptualized and measured by Cabrera et al. (1993) and Sandler (1999). The performance subsystem is composed of the single endogenous variable, academic performance, defined as cumulative GPA (Bean & Metzner, 1985) to whom Kasworm and Pike (1994) express concern regarding its deployment with nontraditional populations. Other critical exogenous variable parameters with sociodemographic import are structurally integrated and observed.

RESEARCH DESIGN AND METHODS

Population and Sample

The population for this research investigation was composed of adult undergraduate students 24 years of age or older studying in a two year and four year degree bearing program for adult students. A survey questionnaire was distributed to a randomly selected sample of 937 adult students enrolled. After a 63 percent survey response and listwise deletion, the sample for data analysis comprised 469 adult students. From these data sources, a total of 23 variables were included in this research study. Degree program, one exogenous variable, differentiates between two-year and four-year degree programs and serves as a control.

Instrumentation

Two instruments were integrated and adapted for the sample being examined: the Career Decision-Making Self-Efficacy - Short Form (CDMSE-SF) scale (Betz, Klein & Taylor, 1996; Betz & Taylor, 1994; Taylor & Betz, 1983) and the "Student Experiences Survey" (Cabrera, 1988) employed in "integrated model of student retention" (Cabrera et al., 1993) (instruments used by permission). As an amalgam of these two instruments, a single survey questionnaire, the Adult Student Experiences Survey (ASES) was administered to collect attitudinal data and self-reported background characteristics. As tested, the reliability of scales employed in large part matched or surpassed the levels reported by their respective developers.

Variables in the Study

The predictor endogenous (independent) variables included: career decision-making self-efficacy (CDMSE), family encouragement, perceived stress, financial attitudes/satisfaction, financial attitudes/difficulty, academic integration, social integration, cumulative GPA (Grade Point Average), institutional commitment, goal commitment and intent to persist. The exogenous variables of the model included eleven variables that pertained to student background: gender, race/ethnic affiliation, household income, relatives/dependents, financial aid, parents' educational level, academic degree aspirations, student type, degree program, curriculum hours

and hours employed. The criterion (a dependent endogenous variable) was persistence, a dichotomous outcome. Definitions of the variable constructs and related information are provided below:

Academic Integration concerns the feelings students' express about being a part of the academic life of the institution. By examining the perceptions of adult students regarding their 1) academic performance, 2) their satisfaction with the curriculum, and 3) their feelings of being a part of the academic institution, the research examined the degree to which students become involved in the academic system and intellectual life of the university (Cabrera et al., 1993). A five category Likert scale, strongly agree to strongly disagree was employed. The Cronbach Alpha reliability coefficient of the three-item scale for academic integration was .57.

Background Variables are data or specific information collected about students prior to their enrollment at the institution. The background data originate from institutional records and by means of the Adult Student Experiences Survey (ASES). The background variables investigated include sixteen exogenous variables: The background variables investigated include eleven exogenous variables: 1) gender, 2) race/ethnic affiliation, 3) household income, 4) relatives/dependents, 5) financial aid, 6) parents' educational level, 7) academic degree aspirations, 8) student type, 9) degree program, 10) curriculum hours, and 11) hours employed. Race and gender were included to ascertain the sociostructural impact of these critical background characteristics on the adult learner. Four exogenous variables listed above numbered three, four, five, and six served as controls of the socioeconomic background of the adult population examined. Student type, variable number eight above, controlled for the presence of both freshman students, first time undergraduates at the institution in which the research was conducted, and transfer students. Degree program, variable number nine above, controlled for the presence of adult students studying for two-year and four-year degrees respectively. Curriculum hours served as an institutional measure representing adult students' investment or involvement in their program of study. Hours employed, a self-reported variable, examined the impact that employment had on adult learners.

Career Decision-Making Self-Efficacy (CDMSE-SF), the CDMSE-SF (short form), is comprised of 25 items and identified the extent to which students are confident (have self-efficacy) about their ability to engage in educational and occupational information gathering and goal planning activities (Betz, Klein & Taylor, 1996; Hackett & Betz, 1981; Taylor & Betz, 1983, Peterson, 1993). Each task was measured on a ten-point scale that ranged from no confidence (0) to complete confidence (9). The Cronbach Alpha reliability coefficient of the twenty-five-item scale for CDMSE was .96.

Cumulative GPA (Grade Point Average) means academic performance as a continuous measure (0.000-4.000). Cumulative GPA was obtained from institutional records to examine the

academic performance of adult students.

Family Encouragement was comprised of two items and explores the construct of encouragement from family of Cabrera et al. (1992b; 1993) within the specification of an elaborated model introduced here. A five category Likert scale, strongly agree to strongly disagree was employed. The Cronbach Alpha reliability coefficient of the two-item scale for family encouragement was .84.

Financial Attitudes/Difficulty was comprised of two items and involved the "experience of financial difficulty" while at the institution (Cabrera et al., 1992b) and the difficulty in financing a college education (Cabrera, 1988; Mallette & Cabrera, 1991). A five category Likert scale, strongly agree to strongly disagree was employed. The Cronbach Alpha reliability coefficient of the two-item scale for financial attitudes/difficulty was .69.

Financial Attitudes/Satisfaction was comprised of two items that involved the satisfaction with the amount of financial support (grants, loans, family and jobs) received while attending the institution (Cabrera et al., 1992b, Cabrera et al., 1993) and the satisfaction with financial aid programs at the institution as expressed by students (Mallette & Cabrera, 1991). A five category Likert scale, strongly agree to strongly disagree was employed. The Cronbach Alpha reliability coefficient of the two-item scale for financial attitudes/satisfaction was .84.

Goal Commitment was comprised of two items. It concerned the importance students ascribe to a college degree and the "importance of completing program of study" (Pascarella & Terenzini, 1979, 1980; Cabrera et al., 1993). A five category Likert scale, strongly agree to strongly disagree was employed. The Cronbach Alpha reliability coefficient of the two-item scale for goal commitment was .66.

Institutional Commitment was comprised of four items regarding the student integration model and involved the confidence students have in their institutional choice, and their perceptions of "institutional fit and quality" (Pascarella & Terenzini, 1979, 1980; Cabrera et al., 1993). A five category Likert scale, strongly agree to strongly disagree was employed. The Cronbach Alpha reliability coefficient of the four-item scale for institutional commitment was .78.

Intent to Persist was comprised of four items and involved the likelihood in re-enrolling at the institution as expressed by students (Cabrera et al., 1993). A five category Likert scale, strongly agree to strongly disagree was employed. The Cronbach Alpha reliability coefficient of the four-item scale for intent to persist was .69.

Perceived Stress measures the amount of stress adult students perceive due to the energy they expend and due to the amount of work that college requires. A two-item scale was included that originated with a survey developed by Cabrera (1988). A five category Likert scale, strongly agree to strongly disagree was employed. The Cronbach Alpha reliability coefficient of the two-

item scale for perceived stress was .85.

Persistence, the principal variable of this inquiry, is determined by the actual re-enrollment at the institution for the following term of study.

Social Integration was comprised of two items. The scale examined the experience adult students have in making "close personal friendships" and their "ease of meeting and making friends" in college (Cabrera et al., 1993). A five category Likert scale, strongly agree to strongly disagree was employed. The Cronbach Alpha reliability coefficient of the two-item scale for social integration was .73.

Tests for Univariate and Multivariate Normality

Upon prescreening, PRELIS 2 revealed a moderate level of kurtosis and skewness among the variables to be investigated. (Joreskog & Sorbom, 1993). An alternative estimator was utilized by employing the weighted least squares (WLS) method to serve as an adjustment for the multivariate non-normal conditions encountered.

Data Analysis Procedures

A two step data analysis was conducted that included measurement and structural stages. The measurement stage was performed separately with SPSS 6.13 (Norusis, 1994). After a reliability analysis was completed on the respective endogenous variable scales, data reduction was performed by means of a principal components procedure on the items of these same variable scales with SPSS 6.13 (Norusis, 1994). The principal components procedure and computation of factor scores served as a measurement stage for the structural equation path model that followed.

PRELIS 2 produced data transformations among ordinal and continuous variables and provided appropriate covariance matrices that included the asymptotic covariance matrix (Joreskog & Sorbom, 1993). The structural parameter estimation procedures and path analytic protocol of LISREL 8.14 followed using a weighted least squares (WLS) method that adjusted for non-normal conditions when one or more of the observed variables are ordinal (Joreskog & Sorbom, 1993).

A Focal Examination of Three Hypothetical Variable Subsystems: Integration, Commitment, and Performance

As a part of a larger structural model, three subsystems of interaction that include five endogenous variables hypothetically occur between students, the environment, and an institution in a given term of study involving integration, commitment, and performance. Fourteen hypothetical relationships on five endogenous variables, academic integration, social integration,

institutional commitment, cumulative GPA, and goal commitment are focally illustrated in Figure 1. An examination of the hypothetical effects of the exogenous variables on academic integration, social integration, institutional commitment, cumulative GPA, and goal commitment follows with a total of 15 paths illustrated in Figure 2.

Insert Figure 1 about here

Insert Figure 2 about here

RESULTS

In addition, the total effects of the endogenous variables on academic integration, social integration, institutional commitment, cumulative GPA: grade point average, and goal commitment regarding the integrated model of student persistence are summarily provided in Figure 3 below above an effect size criterion of .10 (Pedhazur, 1996; Stevens, 1996; Hoyle, 1995; Loehlin, 1992; Cohen & Cohen, 1983). The trimmed display of the model (see Figure 3 below) includes a total of 18 endogenous path relationships. In addition, nine exogenous variable path relationships of the same five focal endogenous variables were included and observed in Figure 4.

Insert Figure 3 about here

Insert Figure 4 about here

As a structural model, "Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Persistence" has close to a "perfect fit," (Chi-square = 136.719 with 173 degrees of freedom; p = .981) (Sandler, 1999). Other indicators of goodness of fit included: Chi-Square/degrees of freedom ratio (.790), goodness of fit index (GFI = .994), adjusted goodness of fit index (AGFI = .990), and the root mean square residual (RMR = .0596).

The Squared Multiple Correlation (R^2) for Each Endogenous Variable

The explained variance for each endogenous variable of the integrated model of student persistence is as follows: CDMSE **(8%)**, family encouragement **(27%)**, perceived stress **(8%)**, financial attitudes/satisfaction **(16%)**, financial attitudes/difficulty **(19%)**, academic integration

(18%), social integration **(27%)**, institutional commitment **(39%)**, cumulative GPA **(11%)**, goal commitment **(12%)**, intent to persist **(65%)**, and persistence **(43%)**.

The Total Effects Explaining Academic Integration

Total effects on academic integration of the endogenous variables are listed as follows and arise largely from direct effects; the indirect effects are very small in magnitude. 1) career decision-making self-efficacy (CDMSE) (total effect = – .230, $p < .001$), 2) goal commitment (total effect = .120 $p < .01$), and 3) financial attitudes/satisfaction (total effect = .116, $p < .001$). The explained variance in academic integration was 18 percent at a low level. Total effects on academic integration of the exogenous variables are listed as follows in descending order of magnitude and arise largely from direct effects; the indirect effects are very small in magnitude: 1) ethnicity/race (total effect = – .143, $p < .001$), 2) household income (total effect = – .135, $p < .001$), and 3) gender (total effect = .106, $p < .001$).

The Total Effects Explaining Social Integration

The explained variance of social integration was 27 percent at a moderate level. Total effects on social integration of the endogenous variables are listed as follows and arise largely from direct effects; the indirect effects are very small in magnitude: 1) career decision-making self-efficacy (CDMSE) (total effect = – .197, $p < .001$), 2) financial attitudes/satisfaction (total effect = .189 $p, < .001$), 3) academic integration (total effect = .181, $p < .001$), 4) goal commitment (total effect = .175, $p < .001$), and 5) institutional commitment (total effect = .141, $p < .01$). In addition, total effect of social integration on the exogenous variable, parents' educational level is: (total effect = .355, $p < .001$) and is primarily composed of a direct effect.

The Total Effects Explaining Institutional Commitment

The explained variance of institutional commitment was 39 percent at a moderate level. Total effects on institutional commitment of the endogenous variables arise largely from direct effects; the indirect effects are very small in magnitude: 1) academic integration (total effect = .402, $p < .001$), 2) goal commitment (total effect = .336, $p < .001$), and 3) financial attitudes/satisfaction (total effect = .248, $p < .001$). Total effects on institutional commitment of the endogenous variables that follow arise solely from indirect effects: 4) financial attitudes/difficulty (total effect = – .112, $p < .001$), 5) career decision-making self-efficacy (CDMSE) (total effect = – .110, $p < .001$), and 6) perceived stress (total effect = – .106, $p < .001$). In addition, total effects on institutional commitment of the exogenous variables are listed as follows in descending order of magnitude and arise largely from direct effects; the indirect effects are very small in magnitude: 1) degree program (total effect = – .145, $p < .001$) and 2) student type (total effect = 135, $p < .001$).

The Total Effects Explaining Goal Commitment

One total effect on goal commitment of the endogenous variables arises largely from a direct effect: intent to persist (total effect = – .173, $p < .001$). In addition, the two highest ranked total effects on goal commitment of the exogenous variables are listed as follows in descending order of magnitude. The first arises largely from a direct effect whereas the second arises solely from an indirect effect: 1) parents' educational level (total effect = – .249, $p < .001$) and 2) household income (total effect = – .123, $p < .001$). The explained variance in goal commitment was 12 percent at a low level.

The Total Effects Explaining Cumulative GPA: Grade Point Average

Total effects on cumulative GPA of the endogenous variables, are listed and arise largely from direct effects; the indirect effects are very small in magnitude: 1) academic integration (total effect = – .178, $p < .001$), 2) financial attitudes/difficulty (total effect = .121, $p < .001$), and 3) social integration (total effect = – .110, $p < .001$). In addition, a total effect on academic performance of one exogenous variables is listed and arises largely from a direct effect; the indirect effects is very small in magnitude: 1) ethnicity/race (total effect = .178, $p < .001$). The explained variance in academic performance was 11 percent at a low level.

DISCUSSION AND CONCLUSION

The hypothesized effects displayed in Figure 1were well accounted for with the final trimmed display of the structural model illustrated in Figure 2. Some additional non-hypothesized effects were also integrated with the model that was fitted. As a result, adult student persistence decisions are more comprehensively explained by the new integrated model explored, through the inclusion and dynamic interplay of the theory of planned behavior (Ajzen, 1991; Sandler, 1999; 2000).

Discussion about the Findings Explaining the Focal Subsystem of Integration: Academic Integration and Social Integration

Although the explained variance in academic integration obtained with this investigation is low at 18 percent, the explanation obtained for a nontraditional aged commuter student population exceeded the one reported for the "role of finances in the persistence process" of Cabrera et al. (1992b) by approximately ten percent. Cabrera et al. (1992b) reported the explained variance for a related scale with traditional aged commuter students at "0.078." In addition, the explained variance in social integration obtained with this investigation is at 27 percent close to a moderate level when nontraditional students were surveyed, also exceeding Cabrera et al. (1992b). Indeed,

the explained variances regarding the two variables that comprise the focal subsystem of integration were well specified with the parameters employed for this investigation.

The decisions adult students exercise regarding their career decision-making and their perceived self-efficacy for their vocational futures provided evidence of close to a moderate level of negative buffering on the subsystem of integration, that is, both academic and social integration that adult students' experience in academe. Career decision-making self-efficacy has an inverse effect on the feelings of being a part of an academic and social enterprise that adult students engage in while continuing for a degree. Students may in fact be looking for evidence of more positive career related opportunities based in the curriculum and in the social spheres they engage in as adult learners, in particular with regard to various professional disciplines and adult undergraduate degrees offered.

The experience of financial satisfaction with the financial aid programs at the institution and the goal commitments students express about completing their studies for an undergraduate degree both impact the academic integration and social integration adult students' feel at low levels respectively. Indeed as the structural models of Cabrera et al. (1993; 1992b) purport, the attitudes of financial satisfaction with the institution that adult students' experience helps them feel more a part of the academic enterprise in college. The findings reported here have a broader and more definitive impact for the total subsystem examined, that is for both academic and social integration respectively. The nonrecursive influences of goal commitment on academic and social integration are each new findings not entertained by the theory of departure of Tinto (1975; 1987; 1993). To corroborate with findings addressed in the meta-analysis of Braxton et al. (1997), the commitment to the institution that adult students establish also have an impact at a low level on their feelings of being a part of the social life of the institution. The impact of academic integration on social integration examined here is generally well documented in the literature (Braxton et al., 1997).

With regard to important sociodemographic considerations, lower levels of household income positively influences the feelings adult students express about being a part of the academic enterprise, that is, lower levels of household income serve to increase the level of academic integration expressed by adult students to a small degree. This evidence corroborates with the review of the literature of Baker and Velez (1996) and the evidence that Adelman (1999) recently assessed. There is a small degree of gender inequity and racial inequity present favoring both male and white students respectively with regard to the effects on academic integration. In addition, the educational level of the parents of adult students' influence the social integration of adult learners at a moderate level.

Discussion about the Findings Explaining the Focal Subsystem of Commitment: Institutional Commitment and Goal Commitment

The effects on institutional commitment are at the core of the commitment subsystem addressed. The explained variance reported in institutional commitment was at a moderate level of 39 percent. This finding exceeded the variance explained by Cabrera et al. (1992b) role of the finances model that was reported at "0.271" by a respectable margin. To follow suit with its impact on the integration subsystem addressed above, career decision-making self-efficacy has a negative impact on the commitment to the institution that adult students express, perhaps acting in a parallel fashion to augment the effect that goal commitment has on institutional commitment at a moderate level. Constituting the second largest endogenous variable effect in the model, academic integration has a moderate impact on institutional commitment; this finding has been widely reported in the literature (Braxton et al., 1997). The effects of the financial attitudes on institutional commitment are at a moderate level for satisfaction and at a low and negative level for difficulty. This evidence earmarks new relationships not reported by the structural models of Cabrera et al. (1993, 1992b) that help clarify the ambiguity of the impact that the financial attitudes of satisfaction and difficulty respectively have on the institutional commitment of adult students continuing their studies for a degree. In addition, lower levels of perceived stress experienced by adult students influence their institutional commitment to a small degree. Although the negative effect of intent to persist on goal commitment augers an analysis for an interesting new reported outcome, the explained variance in goal commitment at 12 percent is at a small level.

With regard to a sociostuctural analysis of the background or exogenous variables on the commitment subsystem, adults entering the institution as freshman exhibit a greater degree of commitment than transfer students. In addition adult bachelor degree earning students express a greater degree of institutional commitment when compared with associate degree learners. Students with lower incomes express to a small degree a higher level of goal commitment while continuing their studies for an undergraduate degree, corroborating evidence that Baker and Velez (1996) and Adelman (1999) cite. In addition and in accordance with these same researchers thematic summaries regarding sociodemograpic influences on access and persistence, it is shown that students whose parents have lower levels of education exhibit a higher degree of goal commitment at close to a moderate level.

Discussion about the Findings Explaining the Focal Subsystem of Academic Performance

The explained variance in Cumulative GPA is 11 percent at a low level supporting the conclusion that Kasworm and Pike (1994) made regarding the appropriateness of the deployment

of academic performance in models that examine nontraditional students. Nevertheless the total effects obtained here are illustrative of new interesting explanations. Unlike the findings of Kasworm and Pike (1994), the feelings adult students expressed about being a part of the enterprise of undergraduate learning have a negative influence on their academic performance. On the other hand, Kasworm and Pike (1994) stress the differential impact of background on older and younger students. While this study solely examines adult students, the sociostuctural impact of race/ethnicity on academic performance is in evidence, revealing increases in academic performance for white students at a low level. In accordance, the effect of social integration on academic performance was also negative at a low level. One may conclude that the complete component subsystem of integration that has a antecedent reference to the student integration model of Tinto (1975; 1985; 1993) has a negative effect on cumulative GPA, a construct that was borne from the student attrition model of Bean and Metzner (1985). As an incentive for academic performance, albeit at a low level, the experience of financial difficulty has a positive effect on cumulative GPA at a low level.

General Conclusions

Clear policy implications arise for higher education institutions that provide undergraduate degree programs for adult/nontraditional students. Attention must be placed on helping adult students achieve their goals and on assisting nontraditional learners with the critical developmental task of career decision-making and planning (Sandler, 1999). By serving this adult constituency in the public and private sectors and addressing the career expectations of nontraditional learners for the workplace, higher education may be able to induce a less "indeterminate future" (Kerr, 1997) for itself and its stakeholders. Through careful calibration of careers and curriculum and a balanced adherence of the faculty and administrators to the "guiding principles for creating seamless learning environments" (Kuh, 1996), undergraduate education can grow to be more truly responsive to nontraditional students (Sandler, 1999).

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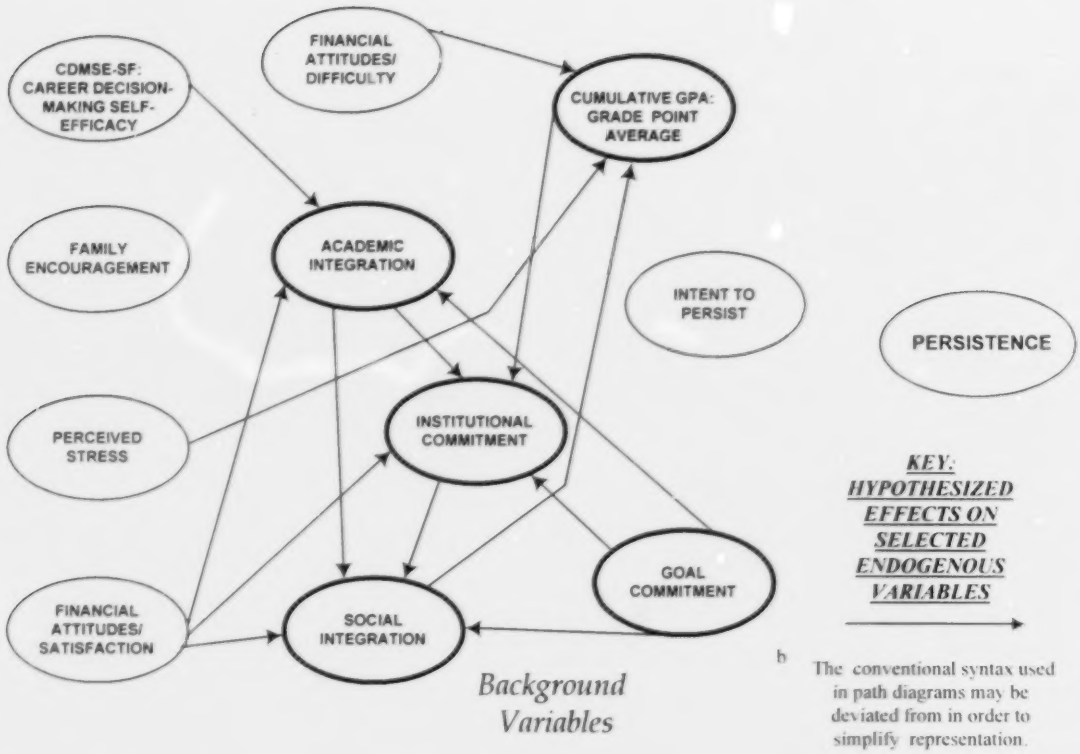

Figure 1: Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence: An Examination of the Hypothesized Effects on Academic Integration, Social Integration, Institutional Commitment, Cumulative GPA, and Goal Commitment [b]

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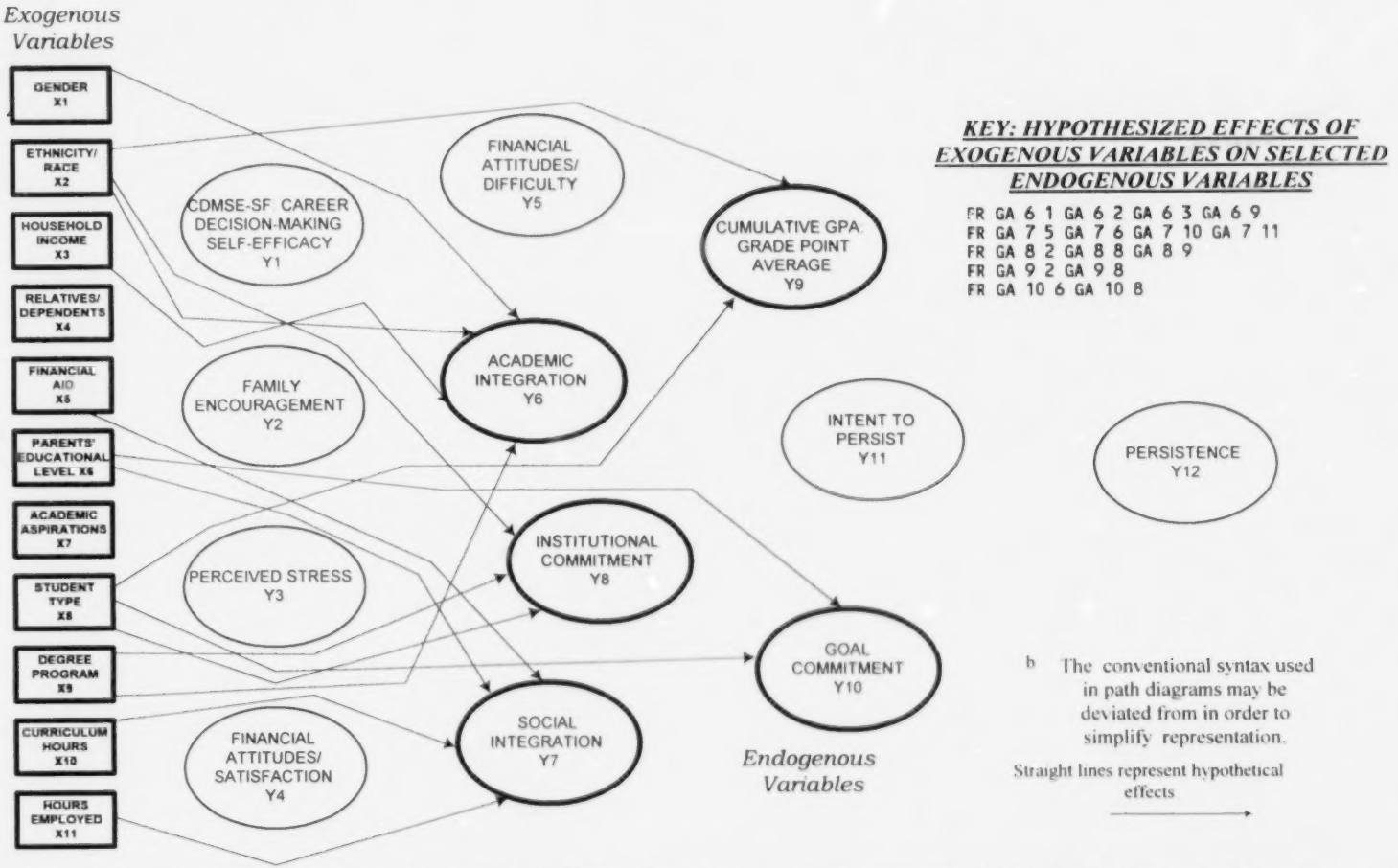
Exogenous Variables
GENDER X1
ETHNICITY/ RACE X2
HOUSEHOLD INCOME X3
RELATIVES/ DEPENDENTS X4
FINANCIAL AID X5
PARENTS' EDUCATIONAL LEVEL X6
ACADEMIC ASPIRATIONS X7
STUDENT TYPE X8
DEGREE PROGRAM X9
CURRICULUM HOURS X10
HOURS EMPLOYED X11
CDMSE-SF CAREER DECISION-MAKING SELF-EFFICACY Y1
FAMILY ENCOURAGEMENT Y2
PERCEIVED STRESS Y3
FINANCIAL ATTITUDES/ SATISFACTION Y4
FINANCIAL ATTITUDES/ DIFFICULTY Y5
ACADEMIC INTEGRATION Y6
SOCIAL INTEGRATION Y7
INSTITUTIONAL COMMITMENT Y8
CUMULATIVE GPA GRADE POINT AVERAGE Y9
GOAL COMMITMENT Y10
INTENT TO PERSIST Y11
PERSISTENCE Y12
Endogenous Variables
KEY: HYPOTHESIZED EFFECTS OF EXOGENOUS VARIABLES ON SELECTED ENDOGENOUS VARIABLES
FR GA 6 1 GA 6 2 GA 6 3 GA 6 9
FR GA 7 5 GA 7 6 GA 7 10 GA 7 11
FR GA 8 2 GA 8 8 GA 8 9
FR GA 9 2 GA 9 8
FR GA 10 6 GA 10 8
b The conventional syntax used in path diagrams may be deviated from in order to simplify representation.
Straight lines represent hypothetical effects

Figure 2: Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence: An Examination of the Hypothesized Effects of the Exogenous Variables on Academic Integration, Social Integration, Institutional Commitment, Cumulative GPA, and Goal Commitment[b]

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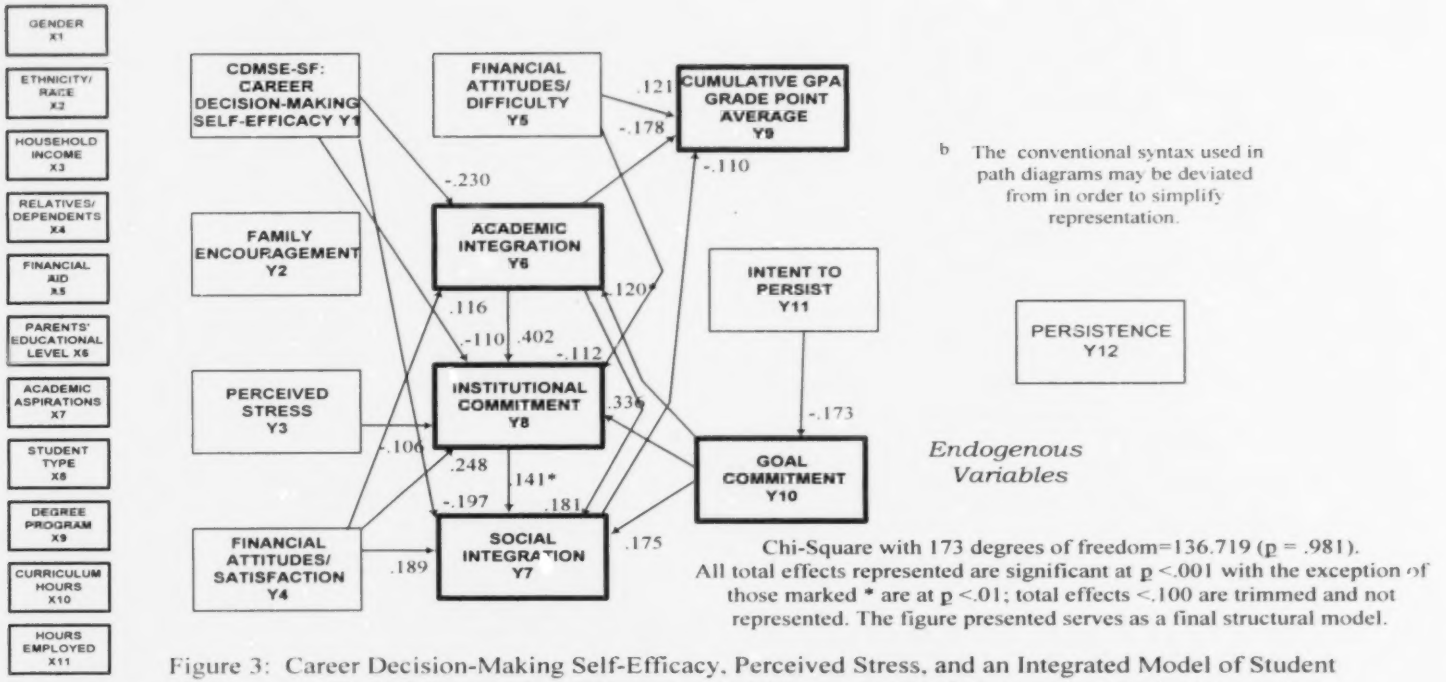

b The conventional syntax used in path diagrams may be deviated from in order to simplify representation.

Chi-Square with 173 degrees of freedom=136.719 (p = .981).
All total effects represented are significant at p <.001 with the exception of those marked * are at p <.01; total effects <.100 are trimmed and not represented. The figure presented serves as a final structural model.

Figure 3: Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence: Total Effects of the Endogenous Variables on Academic Integration, Social Integration, Institutional Commitment, Cumulative GPA, and Goal Commitment

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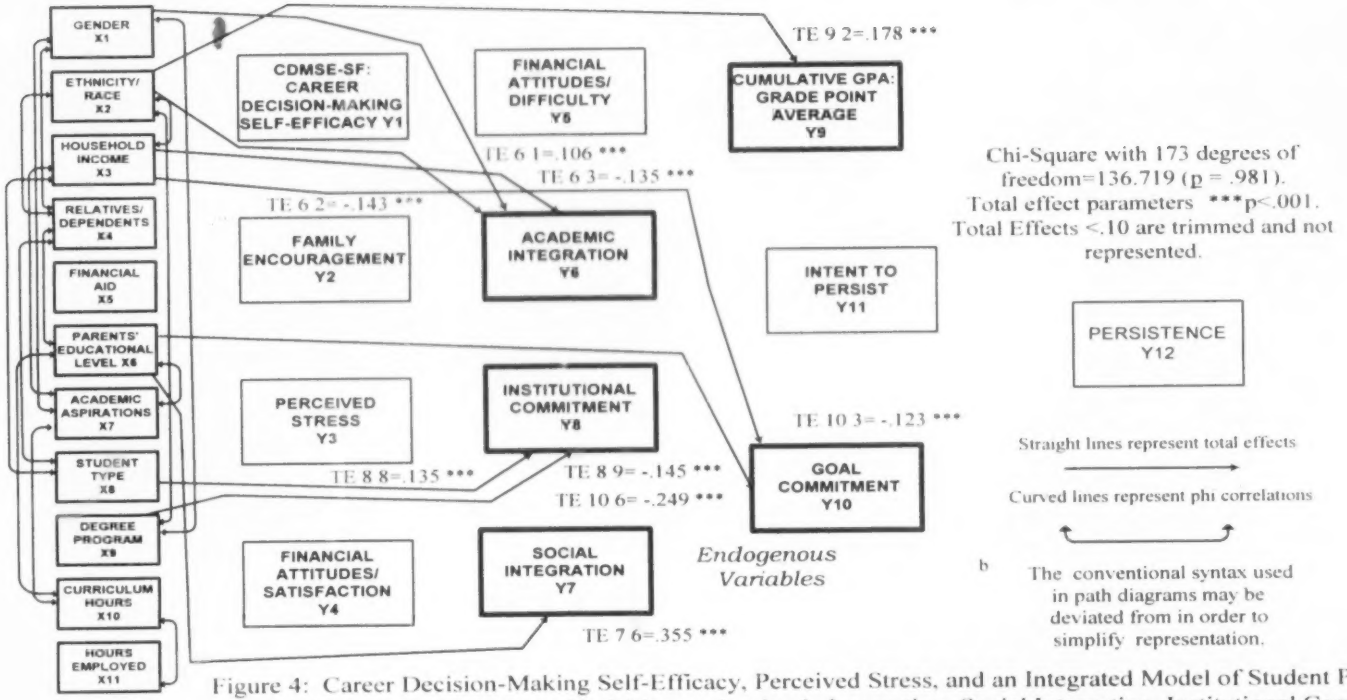
GENDER X1
ETHNICITY/ RACE X2
HOUSEHOLD INCOME X3
RELATIVES/ DEPENDENTS X4
FINANCIAL AID X5
PARENTS' EDUCATIONAL LEVEL X6
ACADEMIC ASPIRATIONS X7
STUDENT TYPE X8
DEGREE PROGRAM X9
CURRICULUM HOURS X10
HOURS EMPLOYED X11
Exogenous Variables
CDMSE-SF: CAREER DECISION-MAKING SELF-EFFICACY Y1
FAMILY ENCOURAGEMENT Y2
PERCEIVED STRESS Y3
FINANCIAL ATTITUDES/ SATISFACTION Y4
FINANCIAL ATTITUDES/ DIFFICULTY Y5
ACADEMIC INTEGRATION Y6
SOCIAL INTEGRATION Y7
INSTITUTIONAL COMMITMENT Y8
CUMULATIVE GPA: GRADE POINT AVERAGE Y9
INTENT TO PERSIST Y11
GOAL COMMITMENT Y10
PERSISTENCE Y12
Endogenous Variables
TE 9 2=.178 ***
TE 6 1=.106 ***
TE 6 3= -.135 ***
TE 6 2= -.143 ***
TE 10 3= -.123 ***
TE 8 8=.135 ***
TE 8 9= -.145 ***
TE 10 6= -.249 ***
TE 7 6=.355 ***
Chi-Square with 173 degrees of freedom=136.719 (p = .981).
Total effect parameters ***p<.001.
Total Effects <.10 are trimmed and not represented.
Straight lines represent total effects
Curved lines represent phi correlations
b
The conventional syntax used in path diagrams may be deviated from in order to simplify representation.

Figure 4: Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence: Total Effects of the Exogenous Variables on Academic Integration, Social Integration, Institutional Commitment, Cumulative GPA, and Goal Commitment within a Trimmed Display of the Model [b]

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